Health Advisory:

Invasive *Haemophilus influenzae* Type B Disease in Young Children and Importance for All Young Children to Receive the 3 Dose Primary Series with Available Hib-containing Vaccine

March 25, 2009

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Health Advisory
March 25, 2009

FROM: **MARGARET T. DONNELLY**
DIRECTOR

SUBJECT: **Invasive *Haemophilus influenzae* Type B Disease in Young Children and Importance for All Young Children to Receive the 3 Dose Primary Series with Available Hib-containing Vaccine**

In an effort to minimize invasive Hib (*Haemophilus influenzae* type b) disease during the current Hib vaccine shortage, health care providers must be vigilant about ensuring that all young children are appropriately vaccinated with the 3 dose primary series of Hib vaccine.

A nationwide shortage of Hib vaccine began in December 2007, and is ongoing. The shortage resulted in a recommendation by the Centers for Disease Control and Prevention (CDC) to temporarily defer the Hib vaccine booster dose (routinely recommended at 12 through 15 months) for children who are NOT at high risk of Hib infection, until supplies are restored. This recommendation is still in effect. There are indications that the challenge associated with the temporary deferral of the booster dose has led to lower completion rates of the primary Hib series.

In addition, temporary deferral of the booster dose at 12 through 15 months of age for non-high risk children may have resulted in increased Hib carriage and transmission in non-symptomatic children. There is potential to see increases in cases of Hib disease at the local level. During 2008 in Minnesota, five children aged 5 months through 3 years were reported with invasive Hib disease (the highest number since 1992); one of the children died. Three of the five children had received no vaccinations because of parent or guardian deferral or refusal. The fourth child, aged 5 months, had received 2 doses of vaccine in accordance with the primary series schedule. The fifth child had a high risk condition but did not receive the recommended booster dose.

There is enough available Hib-containing vaccine for all U.S. children to receive the three dose primary series. All children should complete the primary series by 7 months of age; high risk children should continue to receive the full primary series and the booster dose.

The potential for an increase in the incidence of invasive Hib disease also serves as a reminder of the importance of reporting all persons with known or suspected *Haemophilus influenzae* invasive disease, and obtaining laboratory confirmation that the causative organism is Hib. Known or suspected cases of *Haemophilus influenzae* invasive disease should be reported to your local public health agency, or to the Missouri Department of Health and Senior Services (DHSS): during business hours at 573-751-6113, after hours and on weekends at 800-392-0272, or by fax at 573-526-0235. *Haemophilus influenzae* isolates cultured from normally sterile sites (e.g., blood, cerebrospinal fluid) should be submitted to the Missouri State Public Health Laboratory for confirmatory testing and serotype identification.

Additional information on the issues regarding Hib vaccine is contained in a Health Advisory issued by CDC on March 18, 2009. This document is reproduced below, starting on the following page.

Questions should be directed to DHSS' Bureau of Immunization Assessment and Assurance at (573) 751-6124 or (800) 219-3224.

Invasive *Haemophilus influenzae* Type B Disease in Young Children and Importance for All Young Children to Receive 3 Dose Primary Series with Available Hib-containing Vaccine

Centers for Disease Control and Prevention (CDC)

March 18, 2009

http://www2a.cdc.gov/HAN/ArchiveSys/ViewMsgV.asp?AlertNum=00281

Background of the Hib Vaccine Shortage

Health care providers must be vigilant about ensuring that all young children are appropriately vaccinated with the 3 dose primary series of Hib (*Haemophilus influenzae* type b) vaccine. A nationwide shortage of Hib vaccine began in December 2007 and is ongoing. The recall of certain lots of the two Hib-containing vaccines produced by Merck & Co., Inc. and cessation of production of both vaccines has left only one manufacturer of Hib vaccine in the United States (sanofi pasteur). The shortage resulted in a recommendation by CDC to defer the Hib booster (routinely recommended at 12 through 15 months) for children who are NOT at high risk of Hib infection temporarily, until supplies are restored. This recommendation is still in effect.

Temporary deferral of the booster dose at 12 through 15 months of age for non-high risk children may have resulted in increased Hib carriage and transmission in non-symptomatic children. There is potential to see increases in cases of Hib disease at the local level. During 2008 in Minnesota, five children aged 5 months through 3 years were reported with invasive Hib disease; one died. Three patients had received no vaccinations because of parent or guardian deferral or refusal. One child was aged 5 months and had received 2 doses of Hib PRP-TT vaccine in accordance with the primary series schedule. Another child had received 2 doses of Hib PRP-OMP vaccine, but no booster dose, per CDC recommendations during the shortage. Subsequent to Hib infection, this child was diagnosed with hypogammaglobulinemia. The five cases in 2008 were the most reported for 1 year from Minnesota since 1992, when 10 cases were reported.

There is enough Hib-containing vaccine for all U.S. children to receive the primary series. All children should complete the primary series by 7 months of age; high risk children should continue to receive the full primary series and the booster dose. Completion of the primary series with currently available vaccine products (manufactured by sanofi pasteur) requires a total of 3 doses of Hib-containing vaccine (2, 4, and 6 months). Although there is enough Hib-containing vaccine nationally to support these recommendations, there may be times when practitioners do not have an adequate supply of vaccine to meet local demand. If Hib vaccine is not available in the office at the time of a visit, children who are unable to receive one of the primary series doses should be tracked and recalled to schedule an appointment to receive their dose as soon as vaccine becomes available in the office.

In addition, using available Hib-containing vaccines has presented challenges associated with switching from the Merck to sanofi products for some providers.

There are indications that these challenges have led to lower completion of the primary series. Preliminary information comes from sentinel immunization information systems (registries) in select states, which have indicated up to 10% lower coverage with the third Hib dose in the primary series compared to other vaccines (DTaP, PCV7) commonly administered at the same visit. In the scenario of booster dose deferral, it is even more important that all infants receive the complete primary series.

Specifically, some of the challenges in using the currently available Hib-containing vaccines have included provider reluctance to switch inventory and schedules, misunderstanding regarding what constitutes primary versus booster doses, determining a catch-up schedule in the setting of the deferred booster, and provider and parent concerns about over vaccination resulting from switching to the sanofi pasteur Hib-containing vaccine. Despite these challenges, health care providers need to ensure that all children are appropriately vaccinated with the primary series. For example, if Pentacel (DTaP-IPV/Hib) is the only Hib-containing vaccine available, this combination product should be used to complete the primary series, even if doing so results in receipt of additional doses of other antigens (e.g., DTaP, IPV). The Hib-containing vaccine products that are available may not be what providers used previously in their practice; however, the potential for increased transmission of Hib makes it more important than ever that every child is adequately protected.

Recommendations

The following non-high risk children should be scheduled to receive the primary series of Hib vaccine as outlined below:

- If the child is at least 6 weeks but less than 12 months of age and has received zero, one, or two doses of Hib vaccine, schedule him/her for the first or next dose(s) immediately with a minimum of four weeks between the doses. These children will need one booster dose when the Hib vaccine shortage is over.

- If the child is between 12 and 14 months of age and has not had any doses of Hib vaccine, schedule appointments for two doses, eight weeks apart.

- If the child is between 12 and 14 months of age and has received Hib vaccine but did not complete the primary series before they turned 1 year old (i.e., had 1 dose of the Merck product OR 1-2 doses of the sanofi product), schedule an appointment for 1 additional dose, a minimum of eight weeks from the last dose.

- If the child is at least 15 months of age but less than 5 years of age and has not received any doses of Hib vaccine OR has not completed the primary series (i.e., had 1 dose of the Merck product OR 1-2 doses of the sanofi product), schedule an appointment for one dose.

- If the child is 5 years old or older and hasn't received any Hib vaccine, Hib vaccine is not necessary.

Certain children are at increased risk for Hib disease, including children with asplenia, sickle cell disease, human immunodeficiency virus infection and certain other immunodeficiency syndromes, and malignant neoplasms. CDC recommends that providers continue to vaccinate these children with available Hib conjugate vaccines according to the routinely recommended schedules, including the 12 through 15 month booster dose. Providers who serve predominantly American Indian/Alaska Native (AI/AN) children living in AI/AN communities should continue to stock and use PRP-OMP– containing Hib vaccines (Merck product) and vaccinate according to the routinely recommended schedule, which includes the 2-dose primary series (ages 2 and 4 months) and a 12 through 15 month booster dose. This product is available from the VFC Pediatric Vaccine Stockpile, through their state immunization programs.

For more information about Hib disease and vaccination contact your state or local public health official or CDC at 1-800-232-4636/1-800-CDC-INFO or by email at www.cdc.gov/vaccines/about/contact/nipinfo_contact_form.htm. Information about current vaccine shortages and delays can be found at http://www.cdc.gov/vaccines/vac-gen/shortages/default.htm.

Additional Sources of Information

CDC. Invasive *Haemophilus influenzae* Type B Disease in Five Young Children – Minnesota, 2008. *MMWR* 2009;58(3);58-60.
http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5803a4.htm

CDC. Continued shortage of *Haemophilus influenzae* Type B (Hib) Conjugate Vaccines and Potential Implications for Hib Surveillance – United States, 2008. *MMWR* 2008;57(46):1252-1255.
http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5746a2.htm

CDC. Interim recommendations for the Use of *Haemophilus influenzae* Type B (Hib) Conjugate Vaccines Related to the Recall of Certain Lots of Hib-containing Vaccines (PedvaxHIB and Comvax). *MMWR* 2007; 56(50):1318-1320.
http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5650a4.htm

Health Advisory:

How To Handle Situations Involving Suspicious Powdery Substances (Updated)

March 30, 2009

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The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

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Health Advisory
March 30, 2009

FROM: **MARGARET T. DONNELLY**
DIRECTOR

SUBJECT: **How To Handle Situations Involving Suspicious Powdery Substances (Updated)**

Incidents involving the discovery of a suspicious powdery substance, often in or on a letter or package, continue to occur. Such a discovery often results in concern that the material may contain anthrax spores, ricin, or some other hazardous biological, chemical, or radioactive substance. In almost all instances, the powdery material does not contain any harmful substance and poses no risk to those who have contact with it. However, on very rare occasions, the material has been found to be hazardous. Consequently, whenever a suspicious powdery substance is encountered, reasonable steps need to be taken immediately to minimize exposure and facilitate evaluation of the incident by law enforcement officials, as proper assessment, examination, and handling is critical to minimize any threat to public health from any explosive component or materials, poison chemicals or gases, disease organisms, or ionizing radiation. If law enforcement officials believe the incident represents a true potential threat and that testing of the substance is indicated, they should contact the Missouri Department of Health and Senior Services (DHSS) for consultation, referral as may be needed, and testing services. If necessary, DHSS and local public health agency personnel can also provide assistance to help ensure that all potentially exposed persons are identified and managed appropriately.

Following the anthrax attacks in 2001, protocols were developed for situations where a suspicious powdery substance suspected to contain anthrax spores was discovered. The basic approach described in these documents is valid not only for potential exposures to anthrax spores, but also for exposures to ricin and other hazardous biological, chemical, or radioactive materials that could be disseminated via powdery substances. This Health Advisory replaces the August 20, 2004, Health Advisory entitled “How To Handle Situations Involving Suspicious Powdery Substances,” and provides an updated protocol for handling incidents involving such substances.

Questions regarding this protocol, or potential bioterrorist-associated diseases such as anthrax or ricin poisoning, should be directed to the department’s Bureau of Communicable Disease Control and Prevention at 573/751-6113, 866/628-9891, or 800/392-0272 (24/7).

Questions regarding chemical or radiological issues should be directed to the department’s Bureau of Environmental Epidemiology at 573/751-6102, or 800/392-0272 (24/7).

IF A SUSPICIOUS POWDERY SUBSTANCE IS ENCOUNTERED, DO NOT PANIC – KEEP THE ACTUAL RISK OF THE SITUATION IN PERSPECTIVE

1. It is important to remember that in almost all instances in which a letter or package has been found to contain a suspicious powder, no hazardous substance has been identified. (**Note: the term "hazardous substance," when used in this document, refers to any biological, chemical, or radioactive substance which could cause disease in those exposed to it.**) At the same time, it is wise to handle each situation of this type in a careful, reasonable manner, as described below.
2. Incidents involving a specific threat and/or the discovery of a suspicious powdery substance will be carefully investigated by law enforcement personnel and, if necessary, by public health officials. One of the first steps to take in such a situation is to immediately contact the local law enforcement agency.
3. If, in the unlikely event that anthrax spores are found to be present, and it is believed that specific persons may have inhaled these spores, these persons will be offered preventive (prophylactic) treatment with antibiotic pills to significantly decrease their chances of becoming ill. It is noteworthy that following the 2001 anthrax attacks, over 10,000 individuals who may have been exposed to the spores were placed on prophylactic antibiotics, and no cases of anthrax occurred among these persons. (For more information on anthrax, see http://www.dhss.mo.gov/BT_Response/Med/m_anthrax.htm.)
4. In the similarly unlikely event that ricin is discovered, exposed individuals will be identified and followed for the development of signs of illness (no specific preventive treatment exists). If such signs appear, these persons can then quickly be provided appropriate supportive medical care. (For more information on ricin, see http://www.dhss.mo.gov/BT_Response/Med/m_ricin.htm.)
5. It is also important to remember that persons with inhalational anthrax (the most dangerous form of the disease), or with ricin poisoning, do not transmit the disease to other persons. Person-to-person transmission of cutaneous anthrax has been reported, but is very rare and can be prevented.

Suspicious Letter or Package

What kind of mail should be considered suspicious?

Some characteristics of suspicious packages and envelopes include the following:

- Inappropriate or unusual labeling
  - Excessive postage
  - Handwritten or poorly typed addresses
  - Misspellings of common words
  - Strange return address or no return address
  - Incorrect titles or title without a name
  - Not addressed to a specific person
  - Marked with restrictions, such as "Personal," "Confidential," or "Do not x-ray"
  - Marked with any threatening language
  - Postmarked from a city or state that does not match the return address
- Appearance
  - Powdery substance felt through or appearing on the package or envelope
  - Oily stains, discolorations, or odor
  - Lopsided or uneven envelope
  - Excessive packaging material such as masking tape, string, etc.
- Other suspicious signs
  - Excessive weight
  - Ticking sound
  - Protruding wires or aluminum foil

If a package or envelope appears suspicious, **DO NOT TOUCH OR OPEN IT**.

What should people do if they get a letter or package containing, or contaminated with, a suspicious powdery substance?

See the flow chart beginning on the next page. **Note that if the suspicious powdery substance is found to be in or on some other item besides a letter or package (e.g., a surface where mail is opened), the same general procedures should be followed.**

Actions to Be Taken Following Identification of a Letter or Package Which Could Potentially Contain or Be Contaminated With a Hazardous Substance

Initial Actions if at Home

1. Do not shake or empty the contents of any suspicious package or envelope.
2. Do not carry the package or envelope, show it to others, or allow others to examine it.
3. Put the package or envelope down on a stable surface; do not sniff, touch, taste, or look closely at it or at any contents that may have spilled.
4. Alert others in the area about the suspicious package or envelope. Leave the area, leaving interior doors open, and take actions to prevent others from entering the area. If possible, shut off the ventilation system.
5. Wash hands (and other potentially exposed skin areas) with soap and water to prevent spreading potentially infectious, toxic, or radioactive material to additional areas of the skin. Seek further instructions for exposed or potentially exposed persons.
6. Contact the local law enforcement agency.
7. Create lists of persons who were in the room or area when the suspicious letter or package was recognized, and lists of persons who also may have handled the letter or package. Give these lists to law enforcement officials and, if they become involved, to local or state public health authorities.

Initial Actions if at Work

1. Do not shake or empty the contents of any suspicious package or envelope.
2. Do not carry the package or envelope, show it to others, or allow others to examine it.
3. Put the package or envelope down on a stable surface; do not sniff, touch, taste, or look closely at it or at any contents that may have spilled.
4. Alert others in the area about the suspicious package or envelope. Leave the area, leaving interior doors open, and take actions to prevent others from entering the area. If possible, shut off the ventilation system.
5. Wash hands (and other potentially exposed skin areas) with soap and water to prevent spreading potentially infectious, toxic, or radioactive material to additional areas of the skin. Seek further instructions for exposed or potentially exposed persons.
6. Notify a supervisor, security officer, or local law enforcement official. (Ensure local law enforcement officials are contacted.)
7. If possible, create lists of persons who were in the room or area when the suspicious letter or package was recognized, and lists of persons who also may have handled the letter or package. Give these lists to law enforcement officials and, if they become involved, to local or state public health authorities.

Local Law Enforcement Agency

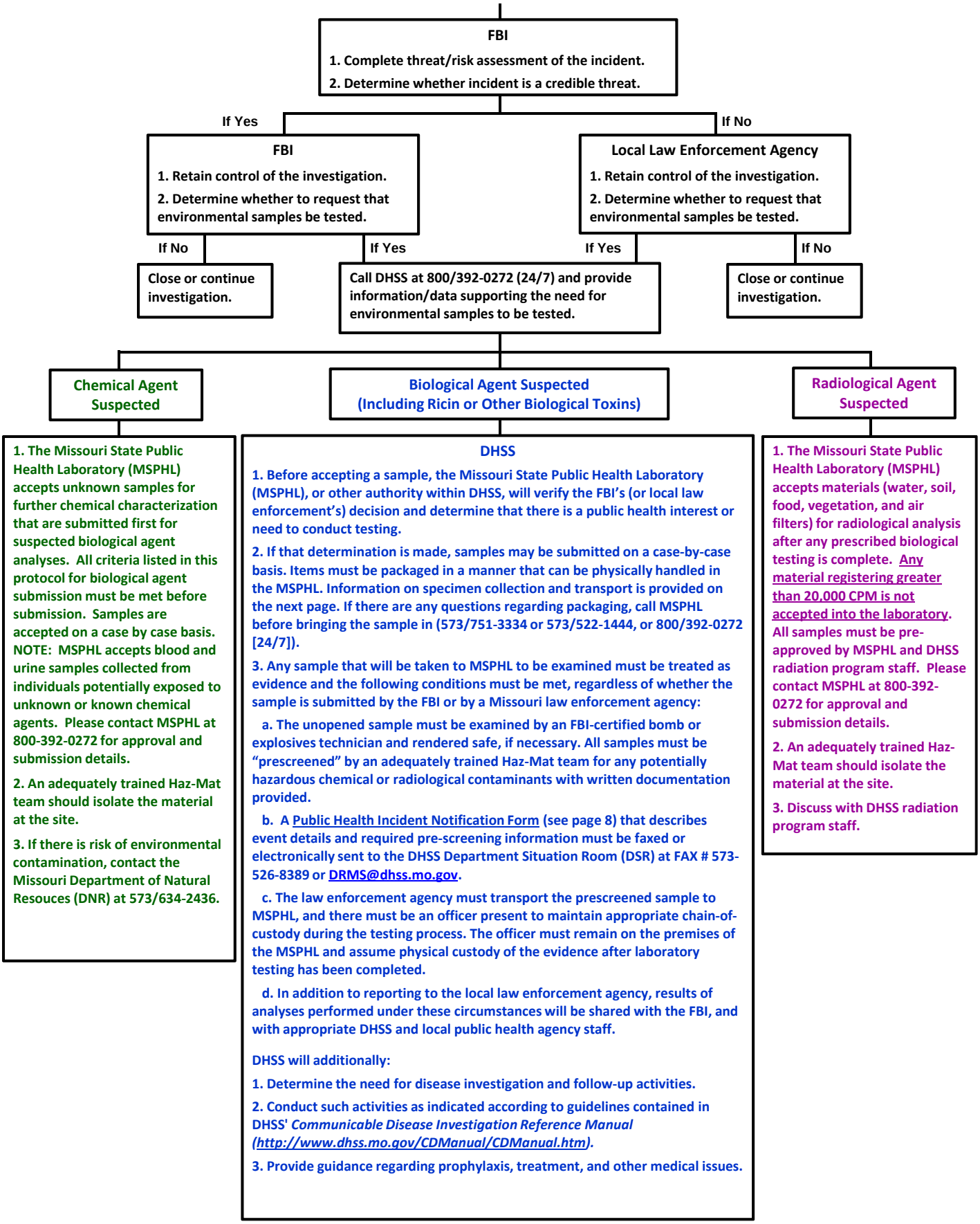
1. Begin investigation and determine the nature of the threat.
2. The FBI must be notified before any specimen is delivered to a public health laboratory.
3. Determine whether the item might contain or be contaminated with a hazardous substance.

If Yes

1. Secure the area.
2. Notify the appropriate Haz-Mat team – see the reference list at the end of this document for the team in your area.
3. Notify the regional office of the FBI and ask for the regional Weapons of Mass Destruction (WMD) Coordinator or designee. Phone numbers are:
   a. Eastern MO – St. Louis Regional Office – 314/231-4324
   b. Western MO – Kansas City Regional Office – 816/512-8200 (Joplin)
   c. Central MO – Jefferson City Area Office – 573/636-8814 (St. Joseph, Springfield)
4. Notify the local public health agency (see local number), or the Missouri Department of Health and Senior Services (DHSS) at 800/392-0272 (24/7).
5. Start a list of names and telephone numbers for all persons who may have handled the letter or package, or otherwise been exposed to the suspicious material.
6. Notify persons who have handled the item to place all contaminated clothing worn when in contact with the item into plastic bags to be made available to local law enforcement, if needed. Instruct these persons to shower as soon as possible.

If No

Close or continue investigation.


FBI
1. Complete threat/risk assessment of the incident.
2. Determine whether incident is a credible threat.
If Yes
If No
FBI
1. Retain control of the investigation.
2. Determine whether to request that environmental samples be tested.
Local Law Enforcement Agency
1. Retain control of the investigation.
2. Determine whether to request that environmental samples be tested.
If No
If Yes
If Yes
If No
Close or continue investigation.
Call DHSS at 800/392-0272 (24/7) and provide information/data supporting the need for environmental samples to be tested.
Close or continue investigation.
Chemical Agent Suspected
Biological Agent Suspected (Including Ricin or Other Biological Toxins)
Radiological Agent Suspected
1. The Missouri State Public Health Laboratory (MSPHL) accepts unknown samples for further chemical characterization that are submitted first for suspected biological agent analyses. All criteria listed in this protocol for biological agent submission must be met before submission. Samples are accepted on a case by case basis. NOTE: MSPHL accepts blood and urine samples collected from individuals potentially exposed to unknown or known chemical agents. Please contact MSPHL at 800-392-0272 for approval and submission details.
2. An adequately trained Haz-Mat team should isolate the material at the site.
3. If there is risk of environmental contamination, contact the Missouri Department of Natural Resouces (DNR) at 573/634-2436.
DHSS
1. Before accepting a sample, the Missouri State Public Health Laboratory (MSPHL), or other authority within DHSS, will verify the FBI's (or local law enforcement's) decision and determine that there is a public health interest or need to conduct testing.
2. If that determination is made, samples may be submitted on a case-by-case basis. Items must be packaged in a manner that can be physically handled in the MSPHL. Information on specimen collection and transport is provided on the next page. If there are any questions regarding packaging, call MSPHL before bringing the sample in (573/751-3334 or 573/522-1444, or 800/392-0272 [24/7]).
3. Any sample that will be taken to MSPHL to be examined must be treated as evidence and the following conditions must be met, regardless of whether the sample is submitted by the FBI or by a Missouri law enforcement agency:
a. The unopened sample must be examined by an FBI-certified bomb or explosives technician and rendered safe, if necessary. All samples must be "prescreened" by an adequately trained Haz-Mat team for any potentially hazardous chemical or radiological contaminants with written documentation provided.
b. A Public Health Incident Notification Form (see page 8) that describes event details and required pre-screening information must be faxed or electronically sent to the DHSS Department Situation Room (DSR) at FAX # 573-526-8389 or DRMS@dhss.mo.gov.
c. The law enforcement agency must transport the prescreened sample to MSPHL, and there must be an officer present to maintain appropriate chain-of-custody during the testing process. The officer must remain on the premises of the MSPHL and assume physical custody of the evidence after laboratory testing has been completed.
d. In addition to reporting to the local law enforcement agency, results of analyses performed under these circumstances will be shared with the FBI, and with appropriate DHSS and local public health agency staff.
DHSS will additionally:
1. Determine the need for disease investigation and follow-up activities.
2. Conduct such activities as indicated according to guidelines contained in DHSS' Communicable Disease Investigation Reference Manual (http://www.dhss.mo.gov/CDManual/CDManual.htm).
3. Provide guidance regarding prophylaxis, treatment, and other medical issues.
1. The Missouri State Public Health Laboratory (MSPHL) accepts materials (water, soil, food, vegetation, and air filters) for radiological analysis after any prescribed biological testing is complete. Any material registering greater than 20,000 CPM is not accepted into the laboratory. All samples must be pre-approved by MSPHL and DHSS radiation program staff. Please contact MSPHL at 800-392-0272 for approval and submission details.
2. An adequately trained Haz-Mat team should isolate the material at the site.
3. Discuss with DHSS radiation program staff.

Environmental Specimens for Biological Analysis: Collection and Transport (Includes Any Sample NOT From Clinical Sources)
Missouri Department of Health and Senior Services (800) 392-0272 (24 hours a day – 7 days a week)
State Public Health Laboratory (573) 751-3334 or (573) 522-1444

For further information, see the Missouri State Public Health Laboratory web site:
http://www.dhss.mo.gov/Lab/index.htm

Remember that these samples may be highly infectious or toxic! Extreme caution should be taken in collecting, preparing for shipment, and transporting any material suspected of being contaminated with a biological or toxic agent.

NOTE: Environmental samples will only be accepted from a law enforcement agency, and the FBI must be, or have been, involved. Each sample can be no larger then 12 inches by 36 inches (including packaging). For larger samples, consult the Missouri State Public Health Laboratory (MSPHL) before submitting.

Samples may include paper, water, dry non-cotton swab samples from air vents or other surfaces, powders, soil, or other environmental samples. Only liquid samples need to be kept cold. All other samples can be transported at room temperature.

Environmental specimens received by MSPHL must be accompanied by paper documentation which includes the following:

1. Agency name and telephone number, and a contact person, for the submitting law enforcement organization along with chain of custody papers.
2. A **Public Health Incident Notification Form** (see page 8) that describes event details and that the sample has been "prescreened" by an FBI-certified bomb or explosives technician and an adequately trained Haz-Mat team must be faxed or electronically sent to the DHSS Department Situation Room (DSR) at FAX # 573-526-8389 or DRMS@dhss.mo.gov.

The sample being submitted should only be the suspect material. Additional items from the area that are suspected of being exposed should be bagged and held until testing is complete. For example, if a suspicious package/letter is received in a post office, only the suspicious package/letter should be brought to MSPHL for testing. All accompanying pieces of mail and the mail bag or letter tray should be bagged in plastic until testing of the suspicious package/letter is completed. Arrangements for where and how that material will be held are the responsibility of the investigating officials.

The specimen must be transported in a container that MSPHL personnel are able to open within a safety cabinet. This would include plastic bags or other devices that can be easily opened. This does not include sealed plastic buckets, etc.

MSPHL is unable to accommodate investigation-derived waste. If the Haz-Mat team has collected the specimen, they should package their waste in a separate container from the specimen. Disposal of investigation-derived waste is the responsibility of the Haz-Mat team.

Reporting Times:

All reporting times are the minimum time. Any individual specimen could take longer.

Anthrax

For environmental specimens, negatives could be reported in 24 hours if there is no suspicious growth. However, any suspicious growth would need to be investigated and could delay the reporting of negative results.

A specimen could be reported "presumptive positive" in 4-6 hours after receipt of the specimen, with complete identification and positive confirmation at 72 hours.

Ricin

Presumptive results, either positive or negative, could be available in 3-4 hours after receipt of the specimen.

General Guidance for Managing Persons Who Have Had Exposure to an Unknown Powdery Substance

1. Persons exposed to a suspicious powdery substance should wash their hands with soap and water to prevent spreading potentially infectious, toxic, or radioactive material to other areas of the skin. If other areas of the skin (e.g., face, arms) have been exposed, they should be similarly washed.

   a) If the initial evaluation of the incident finds evidence of significant risk of exposure to a hazardous substance (e.g., anthrax spores, ricin), exposed persons should, as soon as practical, remove contaminated clothing and store in labeled plastic bags (handling the clothing as little as possible to avoid agitation), and shower thoroughly with soap and water. A more detailed description of this process is described in the box below. Although this description was taken from a CDC ricin document, it provides, in general, a reasonable series of steps to take regardless of the nature of the suspicious material.

   - Removing your clothing:
     - Quickly but carefully (to avoid agitation) take off clothing that may have the potentially hazardous material on it. Any clothing that has to be pulled over the head should be cut off the body instead of pulled over the head.
     - If you are helping other people remove their clothing, try to avoid touching any contaminated areas, and remove the clothing as quickly as possible while taking care to avoid agitation.
   - Washing yourself:
     - As soon as possible, wash any potentially hazardous material from your skin with large amounts of soap and water.
     - If your eyes are burning or your vision is blurred, rinse your eyes with plain water for 10 to 15 minutes. If you wear contacts, remove them and put them with the contaminated clothing. Do not put the contacts back in your eyes (even if they are not disposable contacts). If you wear eyeglasses, wash them with soap and water. You can put your eyeglasses back on after you wash them.
   - Disposing of your clothes:
     - After you have washed yourself, carefully place your clothing inside a plastic bag. Avoid touching contaminated areas of the clothing. If you can't avoid touching contaminated areas, or you aren't sure where the contaminated areas are, wear rubber gloves, turn the bag inside out and use it to pick up the clothing, or put the clothing in the bag using tongs, tool handles, sticks, or similar objects. Anything that touches the contaminated clothing should also be placed in the bag. If you wear contacts, put them in the plastic bag, too.
     - Seal the bag, and then seal that bag inside another plastic bag. When finished, wash your hands with soap and water. Disposing of your clothing in this way will help protect you and other people from any potentially hazardous material that might be on your clothes.
     - When the local or state health department or emergency personnel arrive, tell them what you did with your clothes. The health department or emergency personnel will arrange for further disposal. Do not handle the plastic bags yourself.

   b) If the initial evaluation of the incident does <u>not</u> find evidence of significant risk of exposure to a hazardous substance, then individuals may, when they go home, shower with soap and water, and wash their clothing in the normal manner using laundry detergent.

2. Asymptomatic persons exposed to an unknown powdery substance should <u>not</u> be started on prophylactic medications unless there is specific evidence that the substance contains a particular agent (e.g., anthrax) for which prophylactic drugs would be recommended. If law enforcement personnel evaluate the incident and believe it to represent a credible threat, the substance can be tested and, if the results are positive, any necessary prophylaxis can quickly be instituted. Beginning a prophylactic drug regimen prior to receiving positive laboratory results should only be considered if there is specific evidence that a particular agent, for which prophylaxis is indicated, is likely to have been present in the powdery material.

3. If evaluation of the incident by law enforcement personnel indicates the absence of a credible risk, and no environmental testing is done, prophylactic medications would not be indicated.
4. If an exposed person begins to demonstrate signs/symptoms of illness, he/she should promptly contact a medical provider, and should be sure to mention the powder exposure to the provider. In this situation, the medical provider should consider the following:
    a. If the signs/symptoms are consistent with those seen in early-stage inhalational anthrax (e.g., fever, cough, headache, nausea/vomiting, fatigue, muscle aches, sweating, chest discomfort), and no environmental laboratory results are available, then a decision must quickly be made as to whether to begin treatment for anthrax. This decision must take into account the signs/symptoms, their onset in relation to the time of exposure, and the probability (as best can be determined) that the substance might contain anthrax spores. Clinicians caring for such patients should consult with infectious disease specialists, and with public health officials. If it is concluded that the initiation of treatment is indicated, then the recommended regimen for treating anthrax disease (which differs from the prophylaxis regimen) should be used, and treatment should begin immediately (a delay in initiating proper antibiotic treatment in patients with early-stage inhalational anthrax will substantially lessen the chances for survival). If, as a result of laboratory testing, it is subsequently found that the individual was not exposed to anthrax spores, and does not have anthrax, then the treatment regimen can be discontinued or modified as necessary.
    b. Signs/symptoms seen in early ricin poisoning by inhalation (difficulty breathing, fever, cough, nausea, chest tightness) can be generally similar to those seen in early inhalational anthrax. In a patient with ricin poisoning, proper supportive medical care should be provided (no specific prophylaxis or treatment for ricin is available). This can include appropriate respiratory support (oxygen, intubation, ventilation, PEEP, and hemodynamic monitoring) and treatment for pulmonary edema, as necessary.
    c. If signs/symptoms suggest other etiologies, then the patient should be managed as clinically appropriate, taking into consideration other potential terrorist agents that might have been present in the powdery material, as well as other causes for the patient's disease that are unrelated to the powder exposure or a potential terrorist act. Consultation should be obtained from relevant clinical specialists, as well as from public health officials.
5. If the suspicious powdery substance is found to contain anthrax spores, all individuals potentially exposed to aerosolized spores should be offered prophylactic antibiotics as quickly as possible. Public health officials will be involved in investigating the extent of the exposures, and will provide recommendations as to which specific persons should be offered prophylaxis. All persons receiving prophylaxis should be provided education on anthrax disease and its signs/symptoms. They should be told to contact a medical provider immediately if they develop signs/symptoms consistent with early anthrax disease. Persons with exposure to anthrax spores who develop such signs/symptoms should immediately be started on an anthrax treatment regimen. Recommendations for anthrax prophylaxis and treatment are found in: Inglesby TV, et al. Anthrax as a biological weapon, 2002. *JAMA* 2002;287: 2236-2252 (http://jama.ama-assn.org/cgi/content/full/287/17/2236); see also important corrections to this article at http://jama.ama-assn.org/cgi/content/full/288/15/1849, and a more recent report on anthrax guidelines from a CDC-sponsored meeting of subject matter experts at http://www.cdc.gov/eid/content/14/4/e1.htm. Additional prophylaxis and treatment recommendations may be made once the antibiotic sensitivities of the anthrax organisms have been determined.
6. If the substance is found to contain ricin, all exposed persons should be provided education on ricin poisoning and its signs/symptoms. They should be told to contact a medical provider immediately if they develop signs/symptoms consistent with such poisoning.
7. No screening tests are available for the detection of either anthrax infection or ricin exposure in an asymptomatic person. Nasal swab cultures should not be used to diagnose cases of anthrax or to evaluate whether a person has been exposed. Nasal swab cultures may, in some instances, be utilized by public health researchers conducting an investigation of an anthrax attack.
8. More information for medical and public health professionals on anthrax, ricin, and other biological, chemical, and radiological terrorist threats is available on the department's Emergency Response and Terrorism web site at http://www.dhss.mo.gov/BT_Response/BT_Response.html. Information for the general public is also available on this site.

Public Health Incident Notification Form
Notify: Missouri Department of Health & Senior Services
Center for Emergency Response and Terrorism/Department Situation Room
Fax: 573-526-8389 Phone: 800-392-0272

Date:	**Phone:**
Contact Person:	
From:	**Agency:**
Submission to State Public Health Laboratory: (yes or no)	
Item(s) being submitted:	**Number of samples:**
Common name of substance/material (if known):	
Form of Material: ☐ Powder ☐ Solid Color_____ ☐ Liquid ☐ Other_____ Triple Bagged (yes or no)	
Screening measures: (P = Positive, N = Negative, NC = Not Conducted) ☐ ☐ ☐ P N NC **Chemical corrosivity** ☐ ☐ ☐ P N NC **Volatile Organics** ☐ ☐ ☐ P N NC **Radiological** ☐ ☐ ☐ P N NC **Other**_____ ☐ ☐ ☐ P N NA **Bomb tech screened (if unopened)** **Name of Chemical or Radiological isotope (if Positive)** _____	
Name(s) of screening agency:	
Date and time found:	
Place found:	
City:	**County:**
Threat assessment: (circle one) **1. Low threat – no exposure** **2. Low threat – exposure** **3. Moderate/High threat – no exposure** **4. Moderate/High threat - exposure**	
Number of people directly exposed to threat:	
Specific threat information:	
Decon Measures: ☐ Yes ☐ No ☐ Health intervention underway/recommended/Initiated?	
Health Protective Measures: ☐ Isolation ☐ Evacuation ☐ Quarantine ☐ Shelter in Place ☐ Prophylaxis ☐ Not needed ☐ N/A ☐ Other:_____	
Local Public Health Agency notified: ☐ Yes (please list) _____ ☐ No	
Specific request/Special instructions from FBI	

Regional Points of Contact

http://www.dps.mo.gov/HomelandSecurity/HSRRS/pointofcontact.html

The following are regional points of contact for each
Homeland Security Regional Response Team in the State of Missouri.

For Informational Purposes Only

Region A (KC UASI) Homeland Secruity Response System	
Primary POC: Fire Command	Phone: 816 969-7407 (EOC) E-mail: firecom@lees-summit.mo.us Fax: 816 969-1374
Secondary POC: John Spencer	Phone: 816 969-1304 (office) E-mail: jspencer@lees-summit.mo.us Fax: 816 969-1313 Address: Lee's Summit Fire 207 SE Douglas Lee's Summit, MO 64063
Region B Homeland Security Response System	
Primary POC: Tim King	Phone: 660 785-6945 (office) Emergency Phone: 660 665-5621 (911 center) E-mail: tking@kirksvillecity.com Fax: 660 665-2346 (fax) Address: Kirksville Police Dept. 119 E. McPherson St. Kirksville, MO 63501-3505
Secondary POC: Chief Tim Carter	Phone: 573-221-0657 work E-mail: chief@hannibalfire.com Address: Hannibal Fire Department 205 S. 4th St. Hannibal, MO 63401
Region C (UASI and Non-UASI) Homeland Security Response System	
Primary POC: Rick Daly	Phone: 636-332-8744 (St. Charles Dispatch) 636 949-3572 (office) E-mail: rick.daly@stcharlescity.com Fax: 636 410-0330 Address: St. Charles Fire 118 N. Second St. Ste 214 St. Charles, MO 63301-2851

Secondary POC: Susan Green	Phone: 636-797-5381 (office) E-mail: sgreen@jeffcomo.org
Region D Homeland Security Response System	
Primary POC: David Hall	Phone: 417 864-1500 (office) E-mail: dhall@springfieldmo.gov Fax: 417 864-1505 (fax) Address: Springfield Fire Dept. 830 N. Boonville Ave. Springfield, MO 65802
Secondary POC: Chris Berndt	Phone: 417 334-3440 (office) E-mail: chiefberndt@hotmail.com Fax: 417 334-3446 (fax) Address: Taney Co. Fire 221 Jefferson Rd. Branson, MO 65616
Region E Homeland Security Response System	
Primary POC: David Horton	Phone: 573 888-5337 (office) Phone: 573 888-4622 (Emergency Dispatch) E-mail: gdh@clgw.net Address: 200 Cedar St. Kennett, MO 63857
Secondary POC: Ken Dicus	Phone: 573 475 3782 Phone: 573-471-4711 (Dispatch) E-mail: Kend@sikeston.org Address: Sikeston DPS 215 N New Madrid Sikeston, MO 63801
Region F Homeland Security Response System	
Primary POC: Mike Rackers	Phone: 573 636-3900 (office) Phone: 573 634-6351 (Jeff City 911 Center) E-mail: mike@cfcc-inc.com Fax: 573 659-5124 Address: 1726 Wooded Hills Ln. Jefferson City, MO 65109-9610
Secondary POC: Chuck Witt	Phone: 573 874-7469 (Columbia Joint Communications) E-mail: cpw@gocolumbiamo.com Phone: 573 874-7391 (office) Fax: 573 874-7446 Address: Columbia Fire Dept. 201 Orr St. Columbia, MO 65201

Region G Homeland Security Response System	
Primary POC: Tim Bean	Phone: 417 256-2424 (fire dept) Phone: 417 257-2194 (fire dept) E-mail: tim.bean@westplainsfd.org Address: West Plains Fire Department 302 Jackie D. Garrett. Dr. West Plains, MO 65775
Second POC Roy Sims	Phone: 417 256-2424 (work) E-mail: achiefsims@wpcs.net Address: West Plains Fire Department 302 Jackie D. Garret Dr. West Plains, MO 65775
Region H Homeland Security Response System	
Primary POC: Bill Brinton	Phone: 816-383-0604 E-mail: BBrinton@co.buchanan.mo.us Address: Buchanan Co. EMA 411 Jules 122C St. Joseph, MO 64501
Secondary POC: George Albert	Phone: 816-271-4801 (office) E-mail: galbert@ci.st-joseph.mo.us Address: 3102 N. 34th Terrace, St. Joseph, MO 64506
Region I Homeland Security Response System	
Primary POC: Robert Williams	Phone: 573 364-3989 (office) E-mail: rwilliams@rollacity.org Fax: 573 364-1224 Phone: 573 364-1213 (911 Center) Address: 1490 E. 10th St. Rolla, MO 65401
Secondary POC: Allan Michaels	Phone: 573 364-3989 (office) E-mail: cmichaels@rollacity.org Fax: 573 364-1224 (fax) Phone: 573 364-1213 (911 Center) Address: 1490 E. 10th St. Rolla, MO 65401
State of Missouri 24 Hour Emergency Numbers	
MIAC	Phone: 866-362-6422
SEMA	Phone: 573 751-2748
DNR Spill Line	Phone: 573-634-2436

Health Advisory:

Measles Case Identified in Eastern Missouri

April 22, 2009

This document will be updated as new information becomes available. The current version can always be viewed at http://www.dhss.mo.gov

The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

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Telephone: (800) 392-0272
Fax: (573) 751-6041
Web site: http://www.dhss.mo.gov

Health Advisory
April 22, 2009

FROM: **MARGARET T. DONNELLY**
DIRECTOR

SUBJECT: **Measles Case Identified in Eastern Missouri**

On April 21, 2009, the Missouri Department of Health and Senior Services (DHSS) reported a single laboratory-confirmed case of measles in a resident of eastern Missouri. The adult was part of a group attending a multistate youth program in Maryland (held approximately from April 4 - 11, 2009). Missouri's case is just one of several cases identified from attendees of this conference. The total number of potentially exposed participants (youth and staff) is approximately 620. These participants reside throughout the United States, including Missouri, and returned home on or near April 11. Organizers of the youth group are working with health officials to notify persons who attended the conference of this potential exposure. DHSS is contacting identified exposed individuals who have returned to Missouri.

The Missouri's measles case is reported as not having received measles vaccine. Once measles was suspected, the ill person was isolated for the duration of infectivity. Individuals known to have had contact with the case are being contacted by public health officials. Persons who may develop symptoms should obtain medical evaluation and are being instructed to contact their health care provider before presenting in order to ensure that proper infection control measures are taken.

Health care providers should not rule out the possibility of measles based on a history of documented or undocumented measles immunization. If any patient presents with signs/symptoms suggestive of measles, he/she should be immediately isolated and appropriately evaluated. This evaluation must include obtaining a serum specimen for measles serological testing. The specimen, or a portion of the specimen, should be sent to the Missouri State Public Health Laboratory for testing. In the first 72 hours after rash onset, up to 20 percent of tests for IgM may give false-negative results. Tests that are negative in the first 72 hours after rash onset should be repeated. Any individual suspected of having measles should be immediately reported to the local public health agency, or to the Missouri Department of Health and Senior Services at 800-392-0272 (24 hours a day - 7 days a week).

To prevent measles, children (and some adults) should be vaccinated with the measles, mumps, and rubella (MMR) vaccine. Two doses of this vaccine are needed for complete protection. Children should be given the first dose of MMR vaccine at 12 to 15 months of age. The second dose can be given 4 weeks later, but is usually given before the start of kindergarten at 4 to 6 years of age. The "Recommended Immunization Schedules" can be obtained from the Centers for Disease Control and Prevention's web site located at: http://www.cdc.gov/vaccines/recs/schedules/default.htm.

The next page provides a summary of the clinical features of measles. Questions should be directed to the local public health agency, or to DHSS's Bureau of Communicable Disease Control and Prevention at 573/751-6113, or 866-628-9891.

Measles: Summary of Clinical Features

The **incubation period** of measles, from exposure to onset of prodrome, averages 10-12 days (range 7-18 days). From exposure to rash onset averages 14 days (range, 7-18 days, can be up to 21 days on rare occasions).

The **prodrome** lasts 2-4 days (range 1-7 days). It is characterized by fever, which increases in stepwise fashion, often peaking as high as 103°-105°F. This is followed by the onset of cough, coryza (runny nose), and/or conjunctivitis.

Koplik's spots, a rash (enanthem) present on mucous membranes, is considered to be pathognomonic for measles. It occurs 1-2 days before the rash to 1-2 days after the rash, and appears as punctate blue-white spots on the bright red background of the buccal mucosa.

The measles **rash** is a maculopapular eruption that usually lasts 5-6 days. It begins at the hairline, then involves the face and upper neck. During the next 3 days, the rash gradually proceeds downward and outward, reaching the hands and feet. The maculopapular lesions are generally discrete, but may become confluent, particularly on the upper body. Initially, lesions blanch with fingertip pressure. By 3-4 days, most do not blanch with pressure. Fine desquamation occurs over more severely involved areas. The rash fades in the same order that it appears, from head to extremities.

Other symptoms of measles include anorexia, diarrhea (especially in infants), and generalized lymphadenopathy.

Approximately 30% of reported measles cases have one or more complications. Some of these complications can be severe, and potentially fatal. Death from measles has been reported in approximately 1-3 per 1,000 reported cases in the United States in recent years. As with other complications of measles, the risk of death is higher among young children and adults. Pneumonia accounts for about 60% of deaths. The most common causes of death are pneumonia in children and acute encephalitis in adults.

Measles transmission is primarily person to person via large respiratory droplets. Airborne transmission via aerosolized droplet nuclei has been documented in closed areas (e.g., office examination rooms) for up to 2 hours after a person with measles occupied the area.

Measles is highly communicable, with >90% secondary attack rates among susceptible contacts. Measles may be transmitted from 4 days prior to 4 days after rash onset. Maximum communicability occurs from onset of prodrome through the first 3-4 days of rash.

Health Advisory:

Swine Flu Enhanced Surveillance

April 24, 2009

This document will be updated as new information becomes available. The current version can always be viewed at http://www.dhss.mo.gov

The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

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Web site: http://www.dhss.mo.gov

Health Advisory
April 24, 2009

FROM: **MARGARET T. DONNELLY**
DIRECTOR

SUBJECT: **Swine Flu Enhanced Surveillance**

The Missouri Department of Health and Senior Services (DHSS) is alerting medical providers of 8 cases of swine influenza infection in humans that have been confirmed at this time. Six cases of these cases were detected in the state of California and two cases were detected in Texas. Each of these individuals was infected with a swine influenza A (H1N1) virus, which is unrelated to any H1N1 virus previously seen in North America.

There appears to be human-to-human spread of these viruses – U.S. investigators have not discovered direct exposure to pigs in any of the eight cases. These viruses also have been linked to a swine influenza illness now circulating in Mexico. A World Health Organization spokesperson reports the Mexican outbreak is focused in the Mexico City area and in San Luis Potosi in central Mexico. Symptoms reported in Mexico are a sudden onset of fever higher than 102.2°F, severe head and body ache, eye irritation, and runny nose.

Due to the evolving situation, DHSS is using this Health Alert to keep Missouri health care providers informed. DHSS will use the Health Alert Network to issue updated CDC guidelines as they become available.

Because of concerns regarding human-to-human transmission of swine flu, enhanced statewide human influenza surveillance is being implemented to identify additional cases that may be occurring. Until otherwise notified, DHSS asks that influenza specimens be collected from patients in intensive care units (hospital ICUs) with influenza-like illness, suspect or confirmed influenza, bacterial pneumonia, or febrile lower respiratory illness. As resources permit, DHSS urges that the existing network of Missouri influenza sentinel surveillance providers collect specimens from outpatients who meet the definition for influenza-like illness, suspect or confirmed influenza, bacterial pneumonia, or febrile lower respiratory illness.

Because the virus is not currently believed to be highly pathogenic, specimen collection protocols are the same as for seasonal influenza. Clinicians should obtain a nasopharyngeal swab for influenza testing and place it in a refrigerator (not a freezer). The specimen should be sent to the Missouri State Public Health Laboratory for testing. Attachment 1 of this Health Advisory contains detailed instructions for obtaining and submitting seasonal influenza specimens (and for the current surveillance of swine influenza in humans).

Human-to-human spread of swine flu viruses has been documented in the past; however, it has not previously been documented beyond third generation transmission. It seems likely that transmission is ongoing beyond three contacts, but that has not been determined for certain at this time.

The viruses in the first two patients are resistant (not sensitive) to amantadine and rimantadine, two antiviral medications approved to prevent and treat influenza in the U.S. The viruses are susceptible (sensitive) to the influenza antiviral medications, oseltamivir and zanamivir.

The CDC Morbidity and Mortality Report announcing the two initial cases reports that in the past, they have received reports of approximately one human swine influenza virus infection every one to two years in the United States. However, during December 2005--January 2009, 12 cases of human infection with swine influenza were reported; five of these 12 cases occurred in patients who had direct exposure to pigs, six in patients reported being near pigs, and the exposure in one case was unknown.

Local health department officials will be notified by the DHSS Bureau of Communicable Disease Control and Prevention in the event laboratory results indicate that case and contact investigations are necessary. Local and state public health authorities will work to determine the source of any swine influenza virus found, including the extent of community illness and the need for timely control measures.

Questions should be directed to the local public health agency or to DHSS's Bureau of Communicable Disease Control and Prevention at 573/751-6113, or 866-628-9891.

Attachment 1

Missouri State Public Health Laboratory
COLLECTION AND SUBMISSION OF SEASONAL INFLUENZA SPECIMENS

Upon receipt of the virus shipping containers, place freeze pillows in freezer and keep frozen until specimens are packaged. Store TPB in a refrigerator (4-8ºC) until ready to use.

COLLECTION OF SPECIMEN

Swab: Use only the supplied Dacron / flocked swab or equivalent. Collect appropriate specimen for Influenza testing. Do not use wood shafted or cotton swabs for specimen collection. Break off swab tip into a vial of transport medium (TPB). Securely fasten the screw cap on the specimen tube. Keep the specimen cold (4-8ºC), pending shipment.

Tryptose Phosphate Broth (TPB) is the virus transport media to be used for Influenza testing and is supplied by the Department of Health. Commercially available viral (not bacterial) transport medium may also be used.

NOTE: After a swab is used, place it into the vial of transport medium and break off the swab tip low enough to allow the cap of the media tube to be tightly secured. If the swab is too long for the cap to fit tightly, the media will leak out and we will not be able to test the specimen. **MAKE SURE ALL SPECIMENS ARE LABELED WITH THE PATIENT'S NAME. ANY SPECIMENS RECEIVED WITHOUT PATIENT NAMES WILL BE DISCARDED WITHOUT TESTING.**

Temporary Storage of Specimens for Virus Culture

Specimens should be shipped to the State Laboratory as soon as possible. In order to ensure accuracy, relevance, and validity of testing and reports, specimens that are not received within 7 days of collection will not be tested unless the specimen has been kept at –70º C and shipped on dry ice. During temporary storage, remember that freezing and thawing can be detrimental to virus survival. It is best to keep specimens at refrigerator temperature during temporary storage. At warmer temperatures virus survival is diminished.

PACKING FOR SHIPMENT OF SPECIMENS FOR VIRUS CULTURE

Place refrigerant pillows in Styrofoam box. Pillows must be frozen when box is packed for shipment to maintain specimens at proper temperature. Place specimens in safety container provided in Styrofoam container with freezer pillows. Close lid on Styrofoam box and place completed form on top of Styrofoam box. Place Styrofoam box inside cardboard box and tape shut. **DO NOT USE ICE MADE WITH WATER WHEN SHIPPING SPECIMENS FOR TESTING.**

Shipment of Specimens for Virus Culture Testing

Determine method of shipment (mail or courier) that will get specimens to the Laboratory in the shortest length of time. If possible, select the method of shipment so that the specimens will not arrive in Jefferson City on Saturday, Sunday, or a holiday. **DO NOT SHIP CLINICAL SPECIMENS BY UPS**. **PLEASE USE THESE KITS FOR SEASONAL INFLUENZA SURVEILLANCE SPECIMENS ONLY.**

Missouri State Public Health Laboratory
101 North Chestnut Street, Jefferson City, MO 65101
Phone# 573-751-3334
Fax # 573-526-2754

Revised: January 14, 2009

Health Advisory:

Reinstatement Of *Haemophilus influenza* Type B (Hib) Booster Dose

July 1, 2009

This document will be updated as new information becomes available. The current version can always be viewed at http://www.dhss.mo.gov

The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

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Health Advisory
July 1, 2009

FROM: **MARGARET T. DONNELLY**
DIRECTOR

SUBJECT: **Reinstatement Of *Haemophilus influenza* Type B (Hib) Booster Dose**

Effective immediately, the Centers for Disease Control and Prevention (CDC), in consultation with the Advisory Committee on Immunization Practices (ACIP), American Academy of Family Physicians (AAFP), and American Academy of Pediatrics (AAP), is recommending reinstatement of the booster dose of Haemophilus influenza Type B (Hib) vaccine for children 12 to 15 months who have completed the primary series.

Production of Merck Hib vaccine products is still suspended. However, two other Hib containing vaccines, ActHIB and Pentacel, manufactured by Sanofi-Pasteur are available for use. Sufficient vaccine will be available to administer the primary series at 2, 4, and 6 months and a booster dose on time. Older children for whom the booster dose was deferred should receive their Hib booster dose at the **next routinely scheduled visit** or medical encounter. Although supply is sufficient to reinstate the booster dose and begin catch-up vaccination, supply is not sufficient to support a mass notification process to contact all children with deferred Hib booster doses. When additional Hib-containing vaccine becomes available to support active recall, CDC and the Vaccines for Children (VFC) Program will communicate this information to providers.

Providers with questions about their privately purchased supplies of monovalent Hib Vaccine (ActHIB) or DTaP-IPV/Hib (Pentacel) should contact Sanofi Pasteur's customer service department (800-822-2463). Providers with questions regarding VFC vaccine orders should contact their VFC Program Liaison (800-219-3224). VFC providers should only place orders for a 4-6 week supply of vaccine, due to the fact that the VFC Program will continue to receive a monthly allotment of Hib-containing vaccine from CDC.

Providers should order ActHIB vaccine for children who have already received 4 doses of DTaP. We do not encourage providers to give Pentacel unless a child needs all components of the combination vaccine. However, a mismatch might exist between patient vaccination needs and the available stock of different vaccine formulations (combination products versus single-antigen vaccines). If DTAP-IPV/Hib (Pentacel) is the **ONLY** Hib-containing vaccine available, this combination product can be used to complete the series of Hib vaccination, even if the child already has received all the necessary doses of DTaP and IPV.

For your information, a recent Morbidity and Mortality Weekly Report (MMWR) article entitled "Updated Recommendations for Use of *Haemaophilus infuenzae* Type b (Hib) Vaccine: Reinstatement of the Booster Dose at Ages 12-15 Months" can be accessed at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5824a5.htm?s_cid=mm5824a15e.

Additional information for providers and patients is expected to be available from CDC by mid-July at http://www.cdc.gov/vaccines/vac-gen/shortages/default.htm.

Questions should be directed to the Missouri Department of Health and Senior Services' (DHSS') Bureau of Immunization Assessment and Assurance at (573) 751-6124 or (800) 219-3224.

Health Advisory:

Febrile Reactions Following Gastrointestinal Endoscopy Procedures

July 2, 2009

This document will be updated as new information becomes available. The current version can always be viewed at http://www.dhss.mo.gov

The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

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Health Advisory
July 2, 2009

FROM: **MARGARET T. DONNELLY**
DIRECTOR

SUBJECT: **Febrile Reactions Following Gastrointestinal Endoscopy Procedures**

Brief Summary of Report: As of 7/2/2009, twenty-two (22) nonrespiratory febrile reactions following gastrointestinal endoscopy have been reported to the Missouri Department of Health and Senior Services (DHSS). The nonrespiratory febrile reactions have occurred a few hours after procedures. Reported cases (n = 22) occurred on or after 6/19.

Description: DHSS is working with local health departments to collect reports of nonrespiratory febrile reactions beginning one to three hours after gastrointestinal endoscopy procedures. Reported cases occurred on or after June 19, 2009. Symptoms reported thus far are chills, aches, and fever up to 103.5 degrees Fahrenheit, with fairly quick resolution. Health care staff are reminded to read and follow label instructions for products used in these procedures, including limiting use of large vial anesthetics to one patient if so instructed.

DHSS is requesting information from facilities and providers of endoscopy procedures who may have identified similar cases. Report any such cases or clusters to the State Epidemiologist, sarah.patrick@dhss.mo.gov; (573) 301-8828 (including nights, weekends, and holidays).

Date First Case Ill: 06/19/2009

Cause/Agent: Unknown

Setting: Health Care Facilities

Location: Undetermined geographic scope at this time.

Additional Reading:

http://www3.interscience.wiley.com/journal/122217683/abstract

http://www.premierinc.com/quality-safety/tools-services/safety/topics/guidelines/downloads/14_Multi-Society-Guidelines_03.pdf

http://www.cdc.gov/ncidod/dhqp/injectionSafetyPractices.html

Health Advisory:

Reminder Concerning the Appropriate Use of Antiviral Medications for Novel (H1N1) Influenza

August 25, 2009

This document will be updated as new information becomes available. The current version can always be viewed at http://www.dhss.mo.gov

The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

Health Alerts convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies, and/or the public.

Health Advisories provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

Health Guidances contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

Health Updates provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance; unlikely to require immediate action.

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Health Advisory
August 25, 2009

FROM: **MARGARET T. DONNELLY**
DIRECTOR

SUBJECT: **Reminder Concerning the Appropriate Use of Antiviral Medications for H1N1 Influenza**

For antiviral treatment of influenza (H1N1) virus infection, either oseltamivir or zanamivir are recommended. As influenza viruses reproduce they can change and some changes can result in these viruses becoming resistant to one or more of these antiviral agents.

It was inevitable that use of these agents would result in the novel H1N1 influenza virus developing resistance. Recent reports of resistance developing in several different countries including the U.S. have been published. As of August 14, 2009, three instances of oseltamivir resistant H1N1 viruses have been confirmed in U.S. residents. The first of these viruses was isolated in Hong Kong from a resident of San Francisco who had traveled to Hong Kong in June. The second and third confirmed instances of oseltamivir resistance in U.S. residents were detected in Washington State in two immunosuppressed patients. As of August 14, 2009, a total of 11 H1N1influenza viruses resistant to the antiviral drug oseltamivir had been reported worldwide. All of the oseltamivir resistant viruses have the same genetic mutation in the neuraminidase gene, known to be associated with resistance to oseltamivir. All but one of the instances of oseltamivir resistance have occurred in conjunction with oseltamivir exposure, either for treatment or prevention. Results from ongoing testing of influenza A (H1N1) viruses indicate that oseltamivir resistance remains very rare worldwide and, so far, all have been sensitive (susceptible) to zanamivir.

To keep the development of resistance to these agents to a minimum, it is imperative that they be used judiciously. Clinical judgment is extremely important prior to their use. Persons with suspected H1N1 influenza who present with an uncomplicated febrile illness typically **do not require** treatment unless they are at higher risk for influenza complications.

APPROPRIATE TREATMENT

Treatment should be considered for all hospitalized patients with confirmed, probable or suspected H1N1influenza. Also, persons with suspected H1N1 influenza who should be considered for treatment include:

- Children younger than 5 years old. The risk for severe complications from seasonal influenza is highest among children younger than 2 years old.
- Adults 65 years of age and older
- Persons with the following conditions:
    - Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological (including sickle cell disease), neurologic, neuromuscular or metabolic disorders (including diabetes mellitus)
    - Immunosuppression, including that caused by medications or by HIV
    - Pregnant women
    - Persons younger than 19 years of age who are receiving long-term aspirin therapy
    - Residents of nursing homes and other chronic-care facilities

CHEMOPROPHYLAXIS

Use of antiviral drugs to prevent illness (chemoprophylaxis) is usually reserved for certain specific situations. Widespread use of antiviral medications for chemoprophylaxis is not encouraged. Inappropriate use of antiviral drugs might be a factor in causing more viruses to become resistant.

It is **not recommended** that antiviral chemoprophylaxis be provided to anyone exposed to a person with H1N1 influenza virus infection **unless** they are:

1. Close contacts of cases (confirmed, probable, or suspected) **that are at high-risk for complications of influenza.**
2. Health care personnel, public health workers, or first responders who have had a recognized, **unprotected close contact exposure** to a person with H1N1 influenza virus infection (confirmed, probable or suspected) during that person's infectious period.

Most persons with H1N1 influenza have had self-limited illness lasting several days and have recovered without need for antiviral treatment. Treatment is most beneficial for patients hospitalized with influenza or those who are ill with influenza who have an age or medical factor placing them at higher risk for more severe illness or influenza-related complications. Also, as stated above, the widespread use of antiviral medications for chemoprophylaxis is not encouraged due to the concern of developing resistance. The appropriate use of these medications is important if they are to be helpful in treating those with the greatest risk of complications from the novel H1N1 influenza virus.

Questions on H1N1 influenza can be directed to your local public health agency (to locate your local public health agency visit: http://www.dhss.mo.gov/LPHA/PublicHealthAgencies.html). Or you can contact the state health department's Bureau of Communicable Disease Control and Prevention at 573-751-6113 or 866-628-9891.

Health Advisory:

Shortage of Erythromycin Ophthalmic Ointment for Prophylaxis of Ophthalmia Neonatorum

September 4, 2009

This document will be updated as new information becomes available. The current version can always be viewed at http://www.dhss.mo.gov

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Health Advisory
September 4, 2009

FROM: **MARGARET T. DONNELLY**
DIRECTOR

SUBJECT: **Shortage of Erythromycin Ophthalmic Ointment for Prophylaxis of Ophthalmia Neonatorum**

The Centers for Disease Control and Prevention (CDC) and the Missouri Department of Health and Senior Services (DHSS) have recently received reports of a shortage of erythromycin (0.5%) ophthalmic ointment. This Health Advisory provides guidance for obtaining supplies of erythromycin (0.5%) ophthalmic ointment during this shortage.

Erythromycin ophthalmic ointment is the recommended prophylaxis for ophthalmia neonatorum. Tetracycline ophthalmic ointment (1%) is also recommended for prophylaxis for ophthalmia neonatorum, but is no longer marketed in the U.S. Silver nitrate (1%), which was a recommended regimen in the 2002 STD Treatment Guidelines, is not available in the U.S.

CDC has been in contact with the U.S. Food and Drug Administration (FDA), which is aware of the shortage of erythromycin ophthalmic ointment and is working with the pharmaceutical companies to increase the supply of this product for neonatal prophylaxis use. The shortage is due to a change in manufacturers. Fera Pharmaceuticals recently acquired the rights to the product and is actively working to make erythromycin ophthalmic ointment available. Bausch and Lomb also manufactures erythromycin ophthalmic ointment and is working to increase production during this period of drug shortage.

FDA's Drug Shortages website has updated information regarding availability of erythromycin ophthalmic ointment. (http://www.fda.gov/Drugs/DrugSafety/DrugShortages)

To secure supplies, CDC recommends the following over the next several weeks:

1. Review your supplies of erythromycin ophthalmic ointment (0.5%) routinely.
2. Reserve current supplies of erythromycin ophthalmic ointment (0.5%) for neonatal prophylaxis use.
3. For normal replacement supplies, contact your wholesale distributor directly.
4. For severely low supplies (i.e., depletion within a week), contact your wholesale distributor or call Bausch and Lomb customer service at 1-800-323-0000 directly.
5. CDC is consulting with other experts to provide alternate recommendations for extreme situations where erythromycin ophthalmic ointment is not available. These recommendations are forthcoming. In the meantime, in circumstances where a recommended regimen is not available, mothers should be tested for chlamydia and gonorrhea prior to delivery, and results obtained as soon as possible. The 2006 STD Treatment Guidelines outline recommended prophylactic treatment for infants whose mothers have gonococcal infection and for management of infants born to mothers who have untreated chlamydia. Empiric treatment is recommended for infants exposed to gonorrhea (page 48)[1], while monitoring for development of symptoms prior to initiating treatment is recommended for infants exposed to chlamydia (page 42)[2]. (http://www.cdc.gov/std/treatment)

DHSS encourages health care institutions to check with other hospitals in the area, as well as retail pharmacies, regarding local availability of erythromycin ophthalmic ointment. Hospitals experiencing shortages should consider using the 3.5 gm size erythromycin ophthalmic ointment if the 1 gm size is not available.

Please circulate this guidance to colleagues who may be affected by the shortage.

Contact the FDA drug shortage e-mail account (drugshortages@fda.hhs.gov) with additional inquiries about the shortage. Questions can also be directed to DHSS's Bureau of HIV, STD, and Hepatitis at 573/751-6439, or 800/392-0272 (24/7).

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1. For gonorrhea: Ceftriaxone 25-50mg/kg IV or IM, not to exceed 125 mg, in a single dose.
2. For chlamydia: Erythromycin base or Ethylsuccinate 50mg/kg/day orally divided into 4 doses daily for 14 days.